

L Number	Hits	Search Text	DB	Time stamp
1	186390	(semiconductor adj laser) or (end adj face) or end-face or (laser adj bar)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/08/12 17:25
2	0	((semiconductor adj laser) or (end adj face) or end-face or (laser adj bar)) same ebpvd	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/08/12 17:29
3	0	((semiconductor adj laser) or (end adj face) or end-face or (laser adj bar)) and ebpvd	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/08/12 17:29
4	492	((semiconductor adj laser) or (end adj face) or end-face or (laser adj bar)) same (electron adj beam)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/08/12 17:30
5	64	((semiconductor adj laser) or (end adj face) or end-face or (laser adj bar)) same (electron adj beam)) same (angle or incident)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/08/12 17:40
6	4208	((semiconductor adj laser) or (end adj face) or end-face or (laser adj bar)) with coat\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/08/12 17:40
7	56	((semiconductor adj laser) or (end adj face) or end-face or (laser adj bar)) with coat\$3) same ((vapor or vacuum) near3 deposit\$4) or \$3pvd or (vacuum near3 evaporat\$4))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/08/12 18:09
8	7	("5911830") or ("6037006") or ("5989932") or ("6258403")).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/08/12 18:13
9	5	("4391696" "4397724" "5063173" "5154333" "5171717").PN.	USPAT	2003/08/12 18:11
10	6	jp-2000307183-\$.did. or jp-11317565-\$.did. or jp-08250814-\$.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/08/12 18:14

* * * * * Welcome to STN International * * * * *

<u>NEWS 1</u>		Web Page URLs for STN Seminar Schedule - N. America
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<u>NEWS 3</u>	Feb 24	PCTGEN now available on STN
<u>NEWS 4</u>	Feb 24	TEMA now available on STN
<u>NEWS 5</u>	Feb 26	NTIS now allows simultaneous left and right truncation
<u>NEWS 6</u>	Feb 26	PCTFULL now contains images
<u>NEWS 7</u>	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
<u>NEWS 8</u>	Mar 24	PATDPAFULL now available on STN
<u>NEWS 9</u>	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
<u>NEWS 10</u>	Apr 11	Display formats in DGENE enhanced
<u>NEWS 11</u>	Apr 14	MEDLINE Reload
<u>NEWS 12</u>	Apr 17	Polymer searching in REGISTRY enhanced
<u>NEWS 13</u>	Jun 13	Indexing from 1947 to 1956 added to records in CA/CAPLUS
<u>NEWS 14</u>	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
<u>NEWS 15</u>	Apr 28	RDISCLOSURE now available on STN
<u>NEWS 16</u>	May 05	Pharmacokinetic information and systematic chemical names added to PHAR
<u>NEWS 17</u>	May 15	MEDLINE file segment of TOXCENTER reloaded
<u>NEWS 18</u>	May 15	Supporter information for ENCOMPAT and ENCOMPLIT updated
<u>NEWS 19</u>	May 19	Simultaneous left and right truncation added to WSCA
<u>NEWS 20</u>	May 19	RAPRA enhanced with new search field, simultaneous left and right truncation
<u>NEWS 21</u>	Jun 06	Simultaneous left and right truncation added to CBNB
<u>NEWS 22</u>	Jun 06	PASCAL enhanced with additional data
<u>NEWS 23</u>	Jun 20	2003 edition of the FSTA Thesaurus is now available
<u>NEWS 24</u>	Jun 25	HSDB has been reloaded
<u>NEWS 25</u>	Jul 16	Data from 1960-1976 added to RDISCLOSURE
<u>NEWS 26</u>	Jul 21	Identification of STN records implemented
<u>NEWS 27</u>	Jul 21	Polymer class term count added to REGISTRY
<u>NEWS 28</u>	Jul 22	INPADOC: Basic index (/BI) enhanced; Simultaneous Left and Right Truncation available
<u>NEWS 29</u>	AUG 05	New pricing for EUROPATFULL and PCTFULL effective August 1, 2003
<u>NEWS EXPRESS</u>	April 4	CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
<u>NEWS HOURS</u>		STN Operating Hours Plus Help Desk Availability
<u>NEWS INTER</u>		General Internet Information
<u>NEWS LOGIN</u>		Welcome Banner and News Items
<u>NEWS PHONE</u>		Direct Dial and Telecommunication Network Access to STN
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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 17:53:48 ON 12 AUG 2003

=> fila caplus

FILA IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=>).

=> s laser(w)bar?

THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE

Some commands only work in certain files. For example, the EXPAND command can only be used to look at the index in a file which has an index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of commands which can be used in this file.

=> s laser bar?

THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE

Some commands only work in certain files. For example, the EXPAND command can only be used to look at the index in a file which has an index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of commands which can be used in this file.

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.42

0.42

FILE 'CAPLUS' ENTERED AT 17:54:41 ON 12 AUG 2003

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FILE COVERS 1907 - 12 Aug 2003 VOL 139 ISS 7

FILE LAST UPDATED: 11 Aug 2003 (20030811/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s laser(w)bar?

433312 LASER

709266 BAR?

L1 311 LASER (W) BAR?

=> s l1 same coat?

MISSING OPERATOR L1 SAME

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s l1 and coat?

921710 COAT?

L2 24 L1 AND COAT?

=> d 1-24 ti

L2 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Citing
References

TI End face coating method of semiconductor laser [Machine Translation].

L2 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

**Citing
References**

TI An overview on tailored tribological and biological behavior of diamond-like carbon

L2 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

**Citing
References**

TI Method of manufacturing semiconductor lasers with diffraction gratings

L2 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

**Citing
References**

TI Diode laser modules of highest brilliance for materials processing

L2 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

**Citing
References**

TI Method for fabricating high speed Fabry-Perot lasers for data communication

L2 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

**Citing
References**

TI Method for **coating** facet edges of an optoelectrical device

L2 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

**Citing
References**

TI The end face method of processing of the semiconductor laser component and the jig which is used for that. [Machine Translation].

L2 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

**Citing
References**

TI Production method of semiconductor laser component, and packaging method of semiconductor laser component. [Machine Translation].

L2 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

**Citing
References**

TI Method and apparatus for retaining and releasing **laser bars** during a facet **coating** operation

L2 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

**Citing
References**

TI Jig for surface treatment of semiconductor laser device

L2 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

**Citing
References**

TI Method and fixture for **laser bar** facet **coating**

L2 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

**Citing
References**

TI Highly reliable 40-W cw InGaAlAs/GaAs 808-nm **laser bars**

L2 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

**Citing
References**

TI Method of making a GaAs-based laser comprising a facet **coating** with gas phase sulfur

L2 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Citing
References

TI Jig for forming optical film on semiconductor laser facet

L2 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Citing
References

TI Fluorine dopant in wear-resistant glass windows for **laser bar** code scanners

L2 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Citing
References

TI Abrasion- and wear-resistant **coated** substrate products

L2 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Citing
References

TI Highly abrasion-resistant, flexible **coatings** for soft substrates

L2 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Citing
References

TI Abrasion wear resistant **coated** substrate product

L2 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Citing
References

TI Off-axis laser deposition of YBa₂Cu₃O_{7-δ} thin films and SrTiO₃ insulation layers

L2 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Citing
References

TI Reliability of aluminum-free 808 nm high-power laser diodes with uncoated mirrors

L2 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Citing
References

TI Commercial applications of ion beam deposited diamond-like carbon (DLC) **coatings**

L2 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Citing
References

TI Abrasion resistant diamond-like carbon films for optical applications

L2 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Citing
References

TI Abrasion-resistant **coated** glass substrate product.

L2 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Citing
References

TI 10 Watt CW diode **laser bar** efficiently fiber coupled to a 381 μm diameter fiber optic connector

=> d 19 all

L2 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full
Text Citing
References

AN 1995:709597 CAPLUS

DN 123:272615
 TI Off-axis laser deposition of YBa2Cu3O7- δ thin films and SrTiO3 insulation layers
 AU Holzapfel, B.; Roas, B.; Schultz, L.; Saemann-Ischenko, G.
 CS Research Laboratories, SIEMENS AG, Erlangen, D-91050, Germany
 SO Transactions of the Materials Research Society of Japan (1994), 17(Laser and Ion Beam Modification of Materials), 341-4
 CODEN: TMRJE3; ISSN: 1382-3469
 PB Elsevier
 DT Journal
 LA English
 CC 76-4 (Electric Phenomena)
 Section cross-reference(s): 75
 AB The authors report on YBa2Cu3O7- δ thin film prepn. by a new laser deposition geometry, the so-called off-axis laser deposition. The main modification of off-axis laser deposition is the change of the substrate orientation in relation to the laser-induced plume. This results in c-axis oriented, epitaxial YBa2Cu3O7- δ thin films with std. Jc-values ($>106 \text{ A/cm}^2$ at 77K and zero field) and an exceptionally good surface quality. Due to this low surface roughness it is possible to prep. thin (30nm) SrTiO3 insulating layers. The insulation resistance of such a SrTiO layer (between two YBCO layers) is $>5\text{M}\Omega$. Using this off-axis geometry it is also possible to coat both sides of a substrate simultaneously, providing a 1-step process in double-sided thin film deposition even on large and relatively thin substrates. Identical crit. current densities (above 106 A/cm^2) were obtained for both films on the substrate.
 ST laser deposition barium copper yttrium oxide; epitaxy laser barium copper yttrium oxide; strontium titanate insulator laser deposition
 IT Electric insulators and Dielectrics
 Epitaxy
 Laser radiation
 Superconductors
 (off-axis laser deposition of YBa2Cu3O7- δ thin films and SrTiO3 insulation layers)
 IT 12060-59-2P, Strontium titanate 109064-29-1DP, Barium copper yttrium oxide (Ba2Cu3YO7), oxygen-deficient
 RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (off-axis laser deposition of YBa2Cu3O7- δ thin films and SrTiO3 insulation layers)

=> d 14 all

L2 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 1996:721825 CAPLUS
 DN 125:342491
 TI Jig for forming optical film on semiconductor laser facet
 IN Okada, Nobumasa; Oosaka, Shigeo
 PA Fujitsu Ltd, Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM H01S003-18
 ICS C23C014-24; C23C014-50; H01L021-203; H01L021-68
 CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 42, 76

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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 PI JP 08250814 A2 19960927 JP 1995-54047 19950314
 PRAI JP 1995-54047 19950314
 AB A jig for forming an optical film on semiconductor laser facets, suited for use in a film-forming process applying ion assisted deposition, comprises a hook-shaped structural body for holding the **laser bar** by the edges, thereby preventing the semiconductor laser from falling off the jig during the **coating** processes.
 ST ion assisted deposition jig semiconductor laser; optical film ion assisted deposition laser
 IT Vapor deposition processes
 (ion assisted; jig for forming optical film on semiconductor laser facet)
 IT **Coating** process
 (jig for forming optical film on semiconductor laser facet)
 IT Lasers
 (semiconductor, jig for forming optical film on semiconductor laser facet)

=> d 1-13 all

L2 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 2003:433582 CAPLUS
 TI End face **coating** method of semiconductor laser [Machine Translation].
 IN Morioka, Taigo
 PA NEC Kansai, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM H01S005-028
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003163410	A2	20030606	JP 2001-359462	20011126
PRAI	JP 2001-359462		20011126		

AB [Machine Translation of Descriptors]. It is to offer the end face **coating** method without of having the apprehension where purpose of this invention as operating efficiency is improved the optical thin film after the **coating**, in the work of sepg. from the semiconductor **laser bar** and the spacer on the end face of the semiconductor **laser bar**, decreases the mech. stress which joins to the semiconductor **laser bar** and makes the scratch and the crack cause. Spacer 101 after forming the specified optical thin film on the mediating/helping putting and luminous aspect 2a and luminous rear 2b, semiconductor **laser bar** in the end face **coating** method of the semiconductor laser which separates from 1 and spacer 101 between semiconductor **laser bar** 1, in spacer 101 spacer end face **coating** method of the semiconductor laser which designates that the groove 102 which when it makes with 101 and semiconductor **laser bar** stick 1 is opened outside is provided as feature.

L2 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 2003:273442 CAPLUS
 DN 139:40182
 TI An overview on tailored tribological and biological behavior of diamond-like carbon
 AU Hauert, R.; Muller, U.
 CS Swiss Federal Laboratories for Materials Testing and Research (EMPA), Dubendorf, CH-8600, Switz.
 SO Diamond and Related Materials (2003), 12(2), 171-177

CODEN: DRMTE3; ISSN: 0925-9635

PB Elsevier Science B.V.
DT Journal; General Review
LA English
CC 57-0 (Ceramics)

Section cross-reference(s): 9

AB A review. Diamond-like carbon (DLC), also known as amorphous hydrogenated carbon (a-C:H), is a class of material with variable properties. Depending on the deposition conditions and the setup used in tribol. expts., varying and even controversial results are obtained. Addnl., hydrogen, oxygen and the relative humidity have a crucial influence on the tribol. behavior. The amorphous nature of a-C:H opens the possibility to introduce different amts. of other elements into the **coating** and still maintain the amorphous phase of the **coating**. By this technique film properties such as thermal stability, hardness, tribol. properties, elec. cond., surface energy and biol. reactions of cells in contact with the surface can be tuned within a certain range. Com. applications of DLC and alloyed DLC are for example: magnetic storage media, diesel injection pumps, sliding bearings, car valve rockers, gears, tappets of racing motorcycles, **laser bar** code scanner windows in supermarkets, VCR head drums, textile industry parts. DLC has excellent tribol. properties in tech. applications, however, the literature shows contradicting results on the wear behavior of DLC-coated hip joints.

ST review tailored tribol biol behavior diamondlike carbon

IT Diamond-type crystals

Tribology

(overview on tailored tribol. and biol. behavior of diamond-like carbon)

IT 7440-44-0, Carbon, properties

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(overview on tailored tribol. and biol. behavior of diamond-like carbon)

RE.CNT 81 THERE ARE 81 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L2 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 2003:23454 CAPLUS
 DN 138:80433
 TI Method of manufacturing semiconductor lasers with diffraction gratings
 IN Tsukiji, Naoki; Irino, Satoshi
 PA The Furukawa Electric Co., Ltd., Japan
 SO U.S. Pat. Appl. Publ., 22 pp.
 CODEN: USXXCO
 DT Patent
 LA English

IC ICM H01L021-00
NCL 438029000; 438031000; 438032000
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003008428	A1	20030109	US 2001-14507	20011214
	JP 2003023209	A2	20030124	JP 2001-206994	20010706
	EP 1284529	A2	20030219	EP 2002-1078	20020122
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI	JP 2001-206994	A	20010706		

AB When manufg. semiconductor elements, a group of semiconductor elements having a diffraction grating formed partly on the side of the facet from which laser light is emitted is formed collectively on a semiconductor wafer by using semiconductor process technologies. The semiconductor laser elements are arranged such that the light emitting facets are opposite to each other to thereby form each diffraction grating of the semiconductor laser elements arranged opposite to each other as one diffraction grating, cleaving this diffraction grating at resp. cleavage planes to cut out **laser bars**, followed by the cleavage of cleavage planes to cut out semiconductor laser elements.

ST semiconductor laser diffraction grating fabrication

IT Cutting

Diffraction gratings

Optical waveguides

Semiconductor lasers

(method of manufg. semiconductor lasers with diffraction gratings)

IT **Coating** materials

(reflective; method of manufg. semiconductor lasers with diffraction gratings)

L2 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 2002:572278 CAPLUS

DN 137:269974

TI Diode laser modules of highest brilliance for materials processing

AU Knitsch, Alexander; Luft, Axel; Gross, Tobias; Ristau, Detlev; Loosen, Peter; Poprawe, Reinhart

CS Fraunhofer-Institut fuer Lasertechnik, Aachen, Germany

SO Proceedings of SPIE-The International Society for Optical Engineering (2002), 4651(Novel In-Plane Semiconductor Lasers), 256-263

CODEN: PSISDG; ISSN: 0277-786X

PB SPIE-The International Society for Optical Engineering

DT Journal

LA English

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

AB Beam quality and output power of mostly 2-dimensional stacked diode laser systems are insufficient for the demands of materials processing. To increase the output power at almost const. beam-quality, superimposition of diode **laser bars** of different wavelengths as well as polarization-multiplexing of s- and p-polarized laser beams is possible. Different techniques for wavelength-multiplexing were developed. The so-called multi-filter concept of a spanned **coated** etalon with edge-filters has turned out best. The concept features a modular design, simple adjustment and easy add-on of more wavelengths. Concerning the polarization-multiplexing the authors take advantage of the almost linear polarized diode **laser bars**. Ordinary used beam splitter cubes with a cemented structure are less qualified for high radiance. Hence the beam combination is achieved with beam displacers made of a birefringent crystal (YVO4) which provide high transmittance and convenient adaptation.

Finally an exptl. set-up with 8 diode **laser bars** of 4 different wavelengths, i.e. 8-times beam superimposition, is realized. The set-up called multiplexer obtains a radiance of $\sim 4 \times 10^6 \text{ W cm}^{-2} \text{ sr}^{-1}$ and outnumbers all other comparable high power diode laser systems.

ST diode laser module brilliance material processing
 IT Materials processing
 (diode laser modules of highest brilliance for materials processing)
 IT Lasers
 (multiplexers; diode laser modules of highest brilliance for materials processing)
 IT Laser radiation
 (superimposition of; diode laser modules of highest brilliance for materials processing)
 IT 13566-12-6, Yttrium vanadate yvo4
 RL: PRP (Properties)
 (birefringent crystal; diode laser modules of highest brilliance for materials processing)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE

- (1) Anon; <http://www.castech-us.com/yvo4.htm>
- (2) Bachmann, F; Physikalische Blatter 2001, V3, P63
- (3) Driscoll, W; Handbook of Optics 1978
- (4) Du, K; OSA TOPS 1997, V10
- (5) Luft, A; Hochleistungs-Diodenlaserstapel hoher Strahldichte 2001
- (6) Meschede, D; Optik, Licht und Laser 1999
- (7) Niederwald, H; Schichtkunde - Schnittstelle zwischen Verfahren und Anwendung 1991
- (8) Russek, U; Laser-Praxis 2001, V1, P14

L2 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 2001:573583 CAPLUS
 DN 135:129387
 TI Method for fabricating high speed Fabry-Perot lasers for data communication
 IN Freund, Joseph Michael; Przybylek, George John; Romero, Dennis Mark; Behringer, Robert Ewing
 PA Agere Systems Inc., USA
 SO U.S., 8 pp.
 CODEN: USXXAM

DT Patent
 LA English
 IC ICM H01S003-10
 ICS H01S005-00; H01S003-20

NCL 372049000
 CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6272163	B1	20010807	US 1999-256574	19990224
PRAI	US 1999-256574		19990224		

AB Methods for fabricating lasers having a Fabry-Perot laser cavity structures in which the laser cavity length and/or facet reflectivity products are selected to cause the laser cavity to have a relaxation oscillation frequency of $\geq 10 \text{ GHz}$ when a predetd. current bias is applied to the laser are described which entail measuring the relative intensity noise spectrum of ≥ 1 conventionally fabricated Fabry-Perot laser having different facet reflectivities when driven at a plurality of current biases different from the predetd. current bias and employing the data in a relation which is provided to det. the desired cleavage parameters for the **laser bar** and/or reflective **coatings** to apply to the facets.

ST cavity property detn Fabry Perot semiconductor laser fabrication
 IT Semiconductor lasers
 (Fabry-Perot semiconductor laser fabrication using cavity parameter
 detn. from relative intensity noise spectral data)
 IT Semiconductor device fabrication
 (of lasers; Fabry-Perot semiconductor laser fabrication using cavity
 parameter detn. from relative intensity noise spectral data)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE

- (1) Buus; A theoretical and Experimental Investigation of Fabry-Perot
 Semiconductor Laser Amplifiers 1985, V21(6), P614
- (2) Uomi; US 5179567 1993
- (3) White; US 4809290 1989

L2 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 2001:495775 CAPLUS
 TI Method for **coating** facet edges of an optoelectrical device
 IN Dautartas, Mindaugas Fernand; Freund, Joseph Michael; Romero, Dennis
 Mark
 PA Lucent Technologies, Inc., USA
 SO U.S., 10 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM B05D005-12
 NCL 427163200; 427126300; 427282000; 427284000
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6258403	B1	20010710	US 1999-397030	19990916
PRAI	US 1999-397030		19990916		

AB A holding apparatus including a fixture is described. The fixture of the
 holding apparatus, which receives a semiconductor **laser bar** for
 optical **coating**, includes a base and a pair of walls. The walls and the
 base have inner surfaces, and the walls have a top surface upon which the
laser bar rests. An extending portion of the semiconductor **laser**
bar fits in a cavity formed by the base and the walls. The facet edges
 of the **laser bar** do not extend horizontally beyond the walls of the
 fixture. A **coating** apparatus applies a **coating** to the facet edges of
 the **laser bar** without contacting any **coating** material on the
 extending portion.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE

- (1) Blonder; US 5179609 1993
- (2) Chakrabarti; US 5911830 1999 CAPLUS
- (3) Dautartas; US 5550088 1996
- (4) Dautartas; US 5935451 1999 CAPLUS
- (5) Freund; US 6026557 2000
- (6) Freund; US 6131263 2000
- (7) Rizzo; US 5989637 1999
- (8) Stark; US 4695486 1987
- (9) Williams; US 5840122 1998

L2 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 2001:247090 CAPLUS
 TI The end face method of processing of the semiconductor laser component and
 the jig which is used for that. [Machine Translation].
 IN Agui, Hiroshi
 PA Nec Kansai, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF

DT Patent
LA Japanese
IC ICM H01S005-028
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001094194	A2	20010406	JP 1999-269748	19990924
PRAI	JP 1999-269748		19990924		

AB [Machine Translation of Descriptors]. The semiconductor laser component exposing end face 2 A and 2 B, plural end face **coat** being able to designate the shade as the occasion where treats, in the **laser bar** 1 which is connected, it decreases the trouble where film thickness becomes thin, forms a membrane on the electrode surface. Spacer bar 58 being regulated, the site spacer bar support 53 of the pair which possesses insertion possible slit 52 opposing and to be arranged slit 52, the one terminal side to be combined locked in combined section and 54 inserting spacer bar 58 in slit 52 in the framework body 51 which forms the letter condition of the R, mount, the work in order for the both ends surface to protrude, of mounting **laser bar** 1 on that surface over again, **laser bar** to make a state where accumulates with 1 and spacer bar 58 alternately, hold down make keep with the holding down part and, supplying the jig to the sputtering device in that state, on the on one hand end face The formation it does the specified membrane, maintaining a state where is kept, does sputtering membrane vis-a-vis the other end face.

L2 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 2000:768780 CAPLUS
TI Production method of semiconductor laser component, and packaging method of semiconductor laser component. [Machine Translation].
IN Toude, Hiroshi
PA Sharp Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01S005-028
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000307183	A2	20001102	JP 1999-117479	19990426
PRAI	JP 1999-117479		19990426		

AB [Machine Translation of Descriptors]. It makes that secede the **laser bar** companion easily after the **coating** film formation possible. On the semiconductor substrate, the laser component it is not, in bar condition plural to cleave process and the aforementioned semiconductor substrate which the laminate structure which includes the optical waveguiding road the formation are done, removes the part in angle of one side of the cleavage plane of the aforementioned **laser bar** the process which the **coating** membrane the formation is done and, in the production method of the semiconductor laser component which is included at least on the cleavage plane of this **laser bar**, in order for the part where angle is removed to face to the same unidirection, arranging the plural **laser bars**, arranging, the formation doing the **coating** membrane on the aforementioned cleavage plane, it designates that becomes as feature.

L2 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 1999:746806 CAPLUS
TI Method and apparatus for retaining and releasing **laser bars** during a facet **coating** operation
IN Freund, Joseph M.; Przybylek, George J.; Romero, Dennis M.
PA Lucent Technologies, Inc., USA

SO U.S.
CODEN: USXXAM
DT Patent
LA English
IC ICM H01L021-00
NCL 438029000; 118728000; 118729000
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5989932	A	19991123	US 1998-123520	19980728
PRAI	US 1998-123520		19980728		

AB An apparatus and process for retaining **laser bars** during a facet **coating** operation and releasing the bars after the conclusion of the facet **coating** operation. A multitude of spacers are positioned with **laser bars** therebetween. Each spacer includes an upper and lower fixture blade. The spacers are compressed together, thus sandwiching the **laser bars**, during the facet **coating** operation. After release of the compressive force, adhered **laser bars** are removed by moving one of the fixture blades relative to the other fixture blade. Movement can be along the longitudinal axis of the blades, perpendicular to the longitudinal axis, or rotation about a pivot axis. Further, movement can include elevation of one blade, or an end of one blade, relative to the other blade.

L2 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 1999:728370 CAPLUS
DN 131:344037
TI Jig for surface treatment of semiconductor laser device
IN Genei, Koichi; Sato, Fumiaki; Iida, Kiyoji
PA Toshiba Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01S003-18
ICS C23C014-50; C23C016-44
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 75

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11317565	A2	19991116	JP 1998-124368	19980507
PRAI	JP 1998-124368		19980507		

AB The jig for forming optical films on **laser bar** edge faces comprises alternately laminated **laser bars** and spacers having cut regions with specified shape for preventing the **laser bar** edge face corners from being shielded in film formation by CVD or sputter deposition. Uniform films can be formed on the laser device edge faces by using the jig.

ST semiconductor laser device film formation jig; regulated shape spacer **laser bar** treatment

IT Ceramics
Coating process
Jigs
Semiconductor lasers
Sputtering
Vapor deposition process
(jig for surface treatment of semiconductor laser device characterized by shape of spacers placed among **laser bars**)

IT 1303-00-0, Gallium arsenide, uses 7440-21-3, Silicon, uses
RL: DEV (Device component use); USES (Uses)
(semiconductor, spacer; jig for surface treatment of semiconductor laser device characterized by shape of spacers placed among

laser bars)

IT 409-21-2, Silicon carbide, uses 1344-28-1, Alumina, uses 7439-98-7, Molybdenum, uses 7440-32-6, Titanium, uses 12597-68-1, Stainless steel, uses 24304-00-5, Aluminum nitride
 RL: DEV (Device component use); USES (Uses)
 (spacer; jig for surface treatment of semiconductor laser device characterized by shape of spacers placed among **laser bars**)

L2 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 1999:383940 CAPLUS
 DN 131:26069
 TI Method and fixture for **laser bar** facet **coating**
 IN Chakrabarti, Utpal Kumar; Chen, Paul Sangone; Przybylek, George John; Rinaudo, Dominic Paul
 PA Lucent Technologies Inc., USA
 SO U.S., 12 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C23C014-00
 NCL 118503000
 CC 75-1 (Crystallography and Liquid Crystals)
 Section cross-reference(s): 73, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5911830	A	19990615	US 1997-844455	19970418
	US 6037006	A	20000314	US 1999-237057	19990126
PRAI	US 1997-844455		19970418		

AB Holders for a plurality of devices, esp. **laser bars**, are described which comprise a plurality of members arranged adjacent to each other and translatable along an axis, ends of adjacent members cooperable with one another so that when one member is displaced along the axis, the other members are sequentially displaced in the same direction along the axis, adjacent members developing device-receiving spaces when moved apart and closing the spaces when moved closer together; and a bias member (e.g., a spring) cooperable with ≥ 1 of the plurality of members to bias the members to close device-receiving spaces between adjacent members to capture devices received therein. In particular, the holders may comprise first and second channels; a plurality of web slats, each having first and second ends and first and second device engaging surfaces, the ends of the web slats received in resp. channels and cooperating with ends of adjacent web slats in the same channel (the web slats are secured at one end of the channels and otherwise movable along the channels); and a bias member cooperating with one of the web slats to bias the web slats toward the end of the channels where the web slats are secured. The holders may be used for securing substantially parallelepiped devices having one or more surfaces for **coating**. Application to **coating** of semiconductor laser facets is indicated.

ST semiconductor laser facet **coating** holder; film deposition multiple substrate mounting app; vacuum deposition multiple substrate mounting app

IT Optical films
 (holders for multiple devices for deposition of)

IT Semiconductor device fabrication
 (holders for multiple devices for film deposition in)

IT Semiconductor lasers
 (holders for multiple devices for film deposition on facets of)

IT Vapor deposition apparatus
 (holders for multiple substrates for film deposition)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; DE 3418332 A1 1985

- (2) Anon; JP 63-028859 1988 CAPLUS
- (3) Anon; JP 63-308922 1988
- (4) Anon; JP 03268382 1991
- (5) Anon; EP 0615824 A1 1994
- (6) Bauer; US 5154333 1992
- (7) Broom; US 5171717 1992
- (8) Cowden; US 4391696 1983
- (9) Gasser; US 5063173 1991
- (10) Moran; US 4397724 1983 CAPLUS

L2 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN	1999:356277 CAPLUS
DN	131:151149
TI	Highly reliable 40-W cw InGaAlAs/GaAs 808-nm laser bars
AU	Hanke, Christian; Korte, Lutz; Acklin, Bruno D.; Luft, Johann; Groetsch, Stefan; Herrmann, Gerhard; Spika, Zeljko; Marciano, Marcel; DeOdorico, Bernhard; Wilhelmi, Jens
CS	Siemens AG Corp. Research, Munich, Germany
SO	Proceedings of SPIE-The International Society for Optical Engineering (1999), 3628(In-Plane Semiconductor Lasers III), 64-70 CODEN: PSISDG; ISSN: 0277-786X
PB	SPIE-The International Society for Optical Engineering
DT	Journal
LA	English
CC	73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties) Section cross-reference(s): 76
AB	The fundamental question whether Al-free semiconductor lasers in the 808 nm band are significantly more reliable than Al-contg. lasers is still open. The authors have fabricated and tested high-power InGaAlAs/GaAs-lasers which show excellent reliability data at and >40 W cw. The laser structure consists of an InGaAlAs-double-quantum well (DQW) as active layer embedded in a large optical cavity (LOC) waveguide structure. The layers were grown in a low pressure OMVPE (LP-OMVPE) reactor using high quality precursors. Asym. coated bars with a width of 1 cm contg. 25 groups of 200 µm wide emitters were mounted junction down on actively cooled heatsinks. At a heatsink temp. of 18° the slope-efficiency is 1.1-1.2 W/A. Due to the low series-resistance of 2.2 mΩ and the low internal losses in the range of 1.7 cm ⁻¹ the overall efficiency at 40 W continuous-wave reaches 50. Lifetime studies over 33 000 h accumulated device hours show that the laser bars with a resonator length of 900 µm can be operated at 40 W with high reliability. The mean degrdn. rate is -0.11/kh. This result emphasizes that Al-contg. lasers can also have a very high reliability usually claimed for Al-free lasers. As a consequence of these encouraging results the authors will start further lifetime tests at 50 to 60 W.
ST	cw aluminum gallium indium arsenide laser bar
IT	Metalorganic vapor phase epitaxy Semiconductor lasers (highly reliable 40-W cw InGaAlAs/GaAs 808-nm laser bars)
IT	106804-30-2, Aluminum gallium arsenide al0.6ga0.4as RL: DEV (Device component use); USES (Uses) (cladding; highly reliable 40-W cw InGaAlAs/GaAs 808-nm laser bars)
IT	1303-00-0, Gallium arsenide, properties 106070-22-8, Aluminum gallium indium arsenide ((Al,Ga,In)As) RL: DEV (Device component use); PRP (Properties); USES (Uses) (highly reliable 40-W cw InGaAlAs/GaAs 808-nm laser bars)
IT	106070-09-1, Aluminum gallium arsenide al0.3ga0.7as RL: DEV (Device component use); USES (Uses)

(waveguiding layer; highly reliable 40-W cw InGaAlAs/GaAs 808-nm
laser bars)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

- (1) Garbuzov, D; IEEE J Quantum Electron 1991, V27(6), P1531 CAPLUS
- (2) Osenbrug, A; Proceeding of SPIE V3284, P20
- (3) Todd, S; Photonics Spectra 1998, V32(5), P152
- (4) Wade, J; Appl Phys Lett 1997, V70(2), P149 CAPLUS
- (5) Waters, R; Prog Quant Electr 1991, V15, P153 CAPLUS
- (6) Yellen, S; IEEE Phot Tech Letters 1992, V4(8), P829

L2 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

Full Text	Citing References
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AN 1997:616987 CAPLUS
DN 127:227137
TI Method of making a GaAs-based laser comprising a facet coating with gas
phase sulfur
IN Chakrabarti, Utpal Kumar; Hobson, William Scott; Ren, Fan; Schnoes,
Melinda Lamont
PA Lucent Technologies Inc., USA
SO U.S., 4 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM H01L021-20
NCL 438033000
CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related
Properties)
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5668049	A	19970916	US 1996-692834	19960731
	EP 822628	A1	19980204	EP 1997-305488	19970722
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 10075020	A2	19980317	JP 1997-206669	19970731
	JP 3221658	B2	20011022		
PRAI	US 1996-692834	A	19960731		

AB In a method of making a GaAs-based semiconductor laser, a fully processed
wafer is cleaved, typically in the ambient atm., into **laser bars**, the
laser bars are loaded into an evacuable deposition chamber (preferably
an ECR CVD chamber) and exposed to a H₂S plasma. Following the exposure,
the cleavage facets are **coated** in the chamber with a protective dielec.
(preferably silicon nitride) layer. The method can be practiced with high
through-put, and can yield lasers (e.g., 980 nm pump lasers for optical
fiber amplifiers) capable of operation at high power. The authors suggest
that hydrogen in the plasma removes the native oxides from the facets, and
that sulfur in the plasma bonds with Ga and As, thereby lowering the
surface state d. of the facets. Since essentially no etching of the
facets result from the exposure to the H₂S plasma, the optical quality of
the cleaved facets is preserved, overcoming one of the shortcomings of at
least some prior art passivation processes.

ST gallium arsenide laser fabrication passivation; semiconductor laser
fabrication facet passivation; hydrogen sulfide plasma laser facet
passivation

IT Semiconductor lasers
Semiconductor lasers
(IR; laser fabrication with facet passivation using hydrogen sulfide
plasma)

IT Passivation
Semiconductor lasers
(laser fabrication with facet passivation using hydrogen sulfide
plasma)

IT IR lasers
IR lasers
(semiconductor; laser fabrication with facet passivation using hydrogen sulfide plasma)

IT 1303-00-0, Gallium arsenide, uses 12033-89-5, Silicon nitride, uses 106070-25-1, Gallium indium arsenide 106312-00-9, Gallium indium phosphide
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(laser fabrication with facet passivation using hydrogen sulfide plasma)

IT 7783-06-4, Hydrogen sulfide, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(laser fabrication with facet passivation using hydrogen sulfide plasma)

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